

Work Order ID 148570

Tuesday, July 05, 2016 3:07:17 PM

148570

Page 1

Item ID: D2278 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Step Leg
 Start Date: 8/4/2016 Start Qty: 10.00 ***10*** **13 SH** Cust Item ID:
 Required Date: 8/9/2016 Req'd Qty: 10.00 ***10*** Customer:
 Reference: **34**

Approvals: Process Plan: **DAS 21** Date: **JUL 12 2016** Tooling: Date: Run Start ***NR1***
 QC: **9-89** Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2278	Rev F

100 ***100*** FLOW WATER JET 0.00
 Waterjet Memo 0.15
 FLOW CNC Waterjet 1-Cut as per Dwg D2278 Dwg Rev: **F** Prog Rev: **F** 2-
 Deburr if necessary

110 ***110*** QC2- Inspect parts off machine FAI/FAIB 0.00
 QC Memo 0.02
 Quality Control

120 ***120*** QC8- Inspect parts - second check 0.00
 QC Memo 0.03
 Quality Control

PR 2016/08/03

14

14 PR 2016/08/03

Pto →

DAS
16
9-89
16/08/08

DQA:

Date:

16.08.29



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

16.08.11

Work Order update only ☐

Work Order: <u>148570</u> Part No. <u>D2278</u> NCR No. <u>16-5966</u>		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☒</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☒	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																			
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Date: <u>16/08/08</u>		Step #: <u>110</u>		QTY Effective: <u>51</u>			MRB (QSI042) Approval DAS 16 9-89 <u>16/08/08</u>																																																																				
Description Work Order Deviation				Disposition				Completed By PR 20/08/08																																																																			
Found Qty x1 Part scrap Moved on water jet Re. operator error.				SCRAP + Destroy. No Replac. Extras made				Lead hand / Supervisor Approval Verification DAS 38 9-89 AUG 9 2016																																																																			
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Page 2

Item ID: D2278 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Step Leg
Start Date: 8/4/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 8/9/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00							
130									
HandFinish	Memo	0.03							
Hand Finishing									
									2016/08/08 DAS 15 9-89 BEB
140	QC7-Inspect Chemical Conversion Coat	0.00							
140									
QC	Memo	0.02							
Quality Control									
									DAS 38 9-89 AUG 09 2016
150	Identify as per dwg & Stock Location: _____	0.00							
150									
Packaging	Memo	0.02							
Packaging	LOCATION : GA								
									Count 13 Pc AUG 10 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval			
Description Work Order Deviation				Disposition				Completed By			
Root Cause				FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐						Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : ☐											

Work Order ID 148570

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Page 3

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Start Date: 8/4/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 8/9/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21 - Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.17							
Quality Control									

16.08.10

SA

AUG 08 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
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Root Cause				FAULT CATEGORY																																																											
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
																								OTHER : _____																																							

Picklist Print

Tuesday, July 05, 2016 3:07:16 PM

Page 1

Work Order ID: 148570

148570

Parent Item: D2278

D2278

Parent Item Name: Step Leg

Start Date: 8/4/2016

Required Date: 8/9/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:A New Issue 05-11-07 JLM
IPP Rev:B Now 6061-T6 06-06-23 JLM
IPP Rev C New flat pattern 08.01.11 EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.080		Purchased		No		100	sf	278.7000	0.9815	10.33158			

M6061T6S 080

6061-T6 .080 Sheet

PR 206/08/063

Location

Loc Qty

Loc Code

MAT020

278.7

134217

16.1

m132772

4.3

m133587

7.7

m133828

4.9

m134551

9.3

m134696

112

m134830

28.4

m135147

96

17.3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Description Work Order Deviation				Disposition				Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
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LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD		Work Order: 148570
Description: Leg		Part Number: D2278
Inspection Dwg: D2278 Rev: F		Page 1 of 1

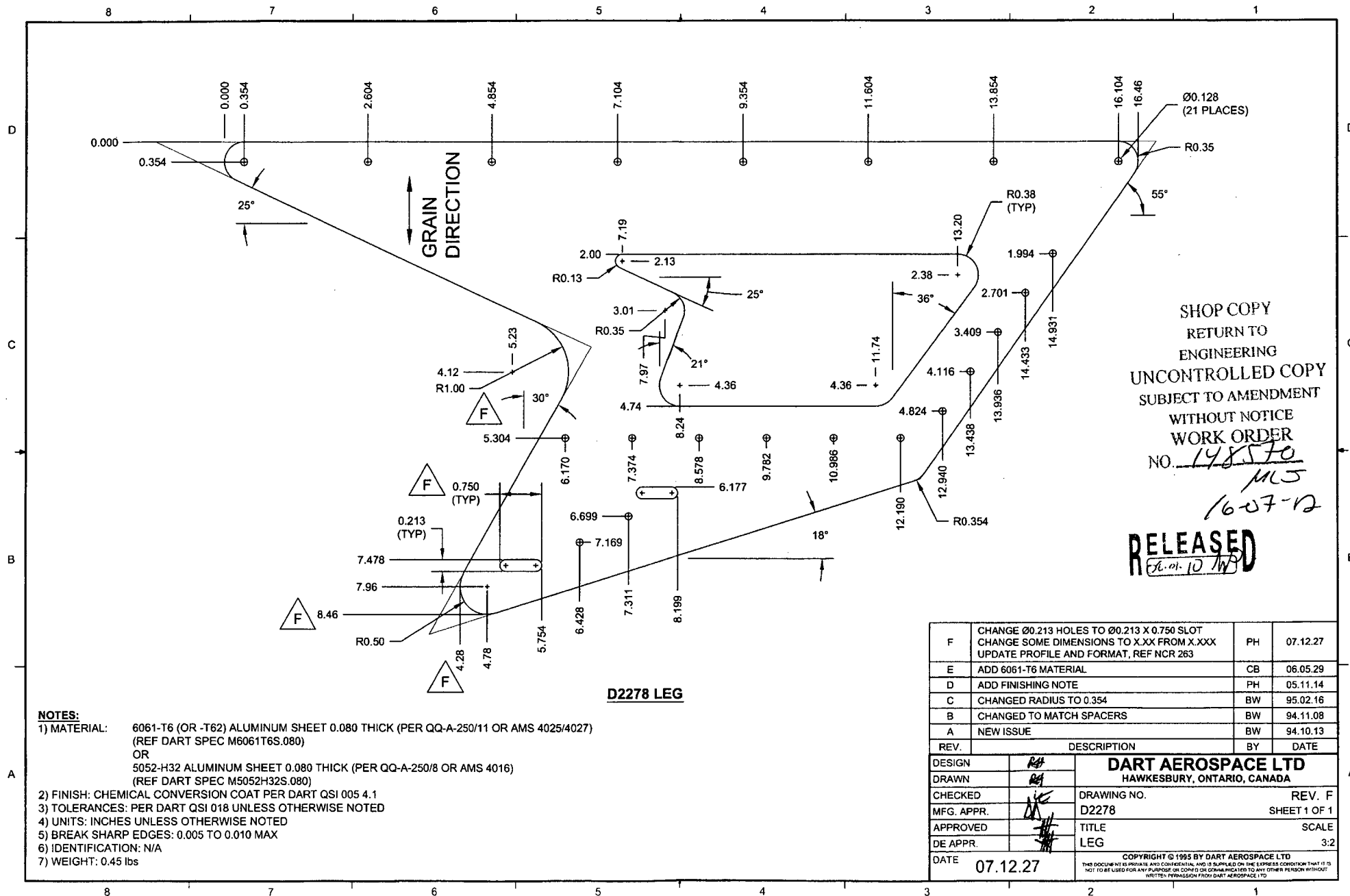
FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.354	+/-0.010	0.358	✓		Dc-01	
0.354	+/-0.010	0.356	✓		Xape	
16.46	+/-0.030	16.40e	✓			
Ø0.128	+0.005/-0.000	0.130	✓			
R0.354	+/-0.030	0.354	✓			
2.00	+/-0.030	2.011	✓			
4.74	+/-0.030	4.750	✓			
8.46	+/-0.030	8.469	✓			
0.213	+/-0.010	0.213	✓			
0.750	+/-0.010	0.754	✓			
0.080 thick	+/-0.010	0.079	✓			

Measured by: PR / a	Audited by: DAS	Prototype Approval: N/A
Date: 2016/08/03	Date: 16/08/03	Date: N/A

Rev	Date	Change	Revised by	Approved
A	04.10.12	New Issue P/O D2582	KJ/JLM	
B	06.03.08	Dwg Rev. changed	KJ/JLM	
C	06.06.23	Dwg Rev. changed	KJ/JLM	
D	08.02.28	Dimensions updated per Dwg Rev F	KJ/DD	



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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 148570
ML5
1607-12

F	CHANGE Ø0.213 HOLES TO Ø0.213 X 0.750 SLOT CHANGE SOME DIMENSIONS TO X.XX FROM X.XXX UPDATE PROFILE AND FORMAT, REF NCR 263	PH	07.12.27
E	ADD 6061-T6 MATERIAL	CB	06.05.29
D	ADD FINISHING NOTE	PH	05.11.14
C	CHANGED RADIUS TO 0.354	BW	95.02.16
B	CHANGED TO MATCH SPACERS	BW	94.11.08
A	NEW ISSUE	BW	94.10.13
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>RA</i>	DART AEROSPACE LTD	
DRAWN	<i>RA</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>KE</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>KE</i>	D2278	SHEET 1 OF 1
APPROVED	<i>KE</i>	TITLE	SCALE
DE APPR.	<i>KE</i>	LEG	3:2
DATE	07.12.27	COPYRIGHT © 1995 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCIAL OR GOVERNMENTAL PURPOSE TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	